

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/089,321	KERNER, NORBERT	
	Examiner Crystal J. Barnes	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to Amendment received on 21 January 2005.
2.  The allowed claim(s) is/are 18-30 and 32-39.
3.  The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

### DETAILED ACTION

1. The following is a Notice of Allowance in response to the Amendment received on 21 January 2005. Claims 1-17 and 31 have been cancelled. Claims 32 and 33 have been amended. No new claims have been added. Claims 18-30 and 32-39 remain pending in this application.

### REASONS FOR ALLOWANCE

2. Claims 18-30 and 32-39 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

As per claim 18, the prior art of record taken alone or in combination fail to teach a reference model is arranged in a cascaded control arrangement and is located between a position control device with a loop gain and a closed speed control device which comprises a proportional branch and an integral branch and wherein the reference model essentially simulates the behavior of the closed speed control circuit without taking the integral portion into consideration.

As per claim 21, the prior art of record taken alone or in combination fail to teach the optimized value is determined in accordance with the equation  $T2_{OPT} = f(f_{s1}) = 1 / (2 * \pi * f_{s1})$ , wherein  $f_{s1}$  = oscillation frequency.

As per claim 33, the prior art of record taken alone or in combination fails to teach the machine theoretically requires an nth order reference model, wherein  $n > 2$  applies.

As per claim 34, the prior art of record taken alone or in combination fail to teach a reference model arranged in a cascaded control arrangement; a closed speed control device, which comprises a proportional branch and an integral branch and wherein the reference model is located between the position control device and the closed speed control device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following reference is cited to further show the state of the art with respect to modeling, simulation and numerical control of a high speed machine tool axis:

P. Poignet et al., "Modeling, Control and Simulation of High Speed

Machine Tool Axes", Proceedings of the 1999 IEEE/ASME

International Conference on Advanced Intelligent

Mechatronics, 19-23 Sept. 1999, Pages: 617 - 622.

M. T. Pham et al., "Automatic Tuning of Cascade Structure CNC

Controllers, Proceedings of the 6th International Workshop on

Advanced Motion Control, 30 March-1 April 2000, Pages: 390 -

395.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is

571.272.3679. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571.272.3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJB  
10 February 2005

  
Anthony Knight  
Supervisory Patent Examiner  
Group 3600